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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,017	08/08/2005	Kenji Tsubone	09709.0001-00000	9505

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EXAMINER	
FORD, JOHN K	

ART UNIT	PAPER NUMBER
3744	

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04/07/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/521,017	TSUBONE ET AL.	
	Examiner	Art Unit	
	John K. Ford	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 January 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13 and 15-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13 and 15-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/02/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Applicant's response of January 23, 2009, supplementing the previous response of October 2, 2008 is acknowledged. This supplemental response, like its predecessor, suffers from many deficiencies, the most salient of which, in the examiner's mind, is the failure to state precisely what it is that is being claimed that JP 8-49934 lacks. Applicant alleges, without referring to any structure in JP 8-49934, that "STR in Figure 1 of JP 8-49934 is not a heat storing device having a storing material which is heated or cooled by a first medium, executing heat exchange among the first heating medium, a second heating medium, and a heat storing material as recited in claim 1. JP 8-49934 fails to disclose or suggest a storing material being heated or cooled by a first medium, as recited in claim 1." The examiner is at a loss to understand how applicant has reached these conclusions regarding JP 8-49934.

If any of the European Patent Office, JPO or Korean Patent Office as well as any Chapter 2 PCT prosecution have allowed or rejected claims in any subsequent communications to the ones of record here, copies (in English) of those claims and any additional references that have been relied upon or cited by those patent offices is required in response to this office action. If no actions have been taken by any of those patent offices subsequent to their respective communications with applicant in 2006, applicant must so state that fact on the record in applicant's next response.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-13, 15-18 and 22-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The selector and the controller of claim 2 are not longer meaningfully tied into any of the structure recited in claim 1. Claim 1 does not recite any "selector" and now that applicant has removed all of the reference numerals from the claims, it is unclear which of the disclosed controllers applicant is claiming in claim 2 and its dependent claims (i.e. claims 3-13 and 22-24).

In claim 11, there is no proper antecedent basis for "the second heat storing device". In claim 15, there is no antecedent basis for "any one of the heat storing devices".

Claims 16-18 depend from canceled claim 14 and therefore could not be further examined.

As the examiner stated previously all functional language in the apparatus claims regarding how the structure is intended to be controlled is treated consistent with MPEP 2114, incorporated here by reference. That is, unless applicant uses proper means plus function language and invokes 35 USC 112, sixth paragraph, (as applicant did in claim 10, for example) the intended manner in which the "controller(s)" and "selector(s)" and

"determining device(s)" are intended to function is not extended significant patentable weight.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 3, 4, 5, 6, 11, 15 and 19 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 8-49934.

The JPO office action mailed to applicant October 10, 2006 is incorporated here by reference by way of explanation. To the extent that the examiner understands the JPO office action it appears that Figure 1 of JP 8-49934 discloses the claimed subject matter of at least claims 1-6, 11, 15 and 19. A first circulating circuit appears to be shown connected to the inlet and outlet ports of compressor 2. The reference also shows an expander 5 that is connected with a first heat exchanger "HEX". The first heat

exchanger "HEX" has a second medium circulated through it and that second medium is pumped by pump "PM" to a second heat exchanger 17. The first heat storing device "STR" has a heat storage material within it that is heated or cooled by the first medium (i.e. the refrigerant from compressor 2) and the first heat storing device executes heat exchange among the first medium (i.e. the refrigerant from compressor 2), the second medium (i.e. the coolant circulated by pump "PM") and the heat storing material 16 in the first heat storing device "STR".

A selector (comprising valves RV1 and RV2) is controlled by a controller 20. Since applicant no longer has the claimed "selector" of claim 2 meaningfully tied to any claimed structure in claim 1, there may be other "selectors" disclosed in JP 08-049934 that would meet the claim limitation of claim 2. The examiner will not be able to ascertain this until applicant makes it clear what applicant is claiming.

Claims 1, 2, 3, 4, 5, 6, 11, 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 08-49934 as applied to claims 1, 2, 3, 4, 5, 6, 11, 15 and 19 above, and further in view of at least one of JP 02-220293 and JP 2000-94953.

To have configured JP 08-49934 with a demand responsive controller as taught by either one or both of JP 02-220293 and JP 2000-94953 would have been obvious to one of ordinary skill in the art (a conclusion reached by the JPO) in order to

advantageously allow the heat exchanger temperature conditioning the air to be operated simultaneously with the charging of the heat storing device “STR”.

Claims 7, 12, 13, 20, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of the prior art as applied to claims 6 and 19 above, and further in view of JP 11-173710.

To have added a heat storage device immediately adjacent the outlet of the compressor 2 of JP 08-049934 with a circulation loop to take the stored heat to the heat exchanger 17 or 4 of JP 08-049934 to advantageously defrost either of these heat exchangers would have been obvious to one of ordinary skill in view of the teaching of JP 11-173710 (see heat storage device 10, pump 13 and the defrost heat exchanger located in evaporator 3 in that circuit of JP 11-173710).

Claims 8, 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of the prior art as applied to claims 1 and 7 above, and further in view of JP 2-223768 and Hughes (USP 4,240,077).

JP ‘768 teaches controlling the compressor 1 responsive to the heat storage temperature. To have done this in JP 08-49934 to bring the heat storage material to a given desired temperature would have been obvious to one of ordinary skill in the art. To have used hysteresis to advantageously stabilize (e.g. avoid ‘hunting”) the operation

of the system would have been obvious in view of Hughes. See the discussion of quantizer 22, incorporated here by reference.

Claims 10 and 23-24 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims, provided that claim 2 can be amended without the introduction of a new issue that would require further search or consideration.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John K. Ford whose telephone number is 571-272-4911. The examiner can normally be reached on Mon.-Fri. 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John K. Ford/
Primary Examiner, Art Unit 3744

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